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EXAMINER

GOMA, TAWFIK A

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### **DETAILED ACTION**

This action is in response to the arguments filed on 3/2/2009.

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#### ***Response to Arguments***

Applicant's arguments filed 3/2/2009 have been fully considered but they are not persuasive.

Applicant first argues that Kimura's disclosure of correcting aberration errors caused by a combination of temperature\*humidity change, variation of the substrate thickness of the medium and the variation of the oscillation wavelength of the light source are not "manufacturing and adjustment errors of the optical components which vary from one such optical head device to another," as claimed. Applicant contends that these errors (i.e. caused by temperature change) are run-time or operational variations which "may or may not be present upon testing at the point of manufacture, and therefore may or may not be detected to be subsequently corrected." The examiner disagrees for the following reasons. First, the affect that temperature has on an optical component is always present since it is a property of that component. That is, at the time of manufacturing the optical component, the affect that temperature would have on that component is a defect or error of that component due to how the component was made (i.e. material used, variations in curvature of the lens, etc. see Kimura par. 5). Furthermore, the variation of oscillation of wavelength of a light source is an inherent defect of the light source which is present at the time of manufacturing the light source and differs for each light source that is manufactured (see Kimura, par. 4). The fact that these errors are present at run-time or while the system is in use to reproduce/record data does not negate the fact that these errors are always

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present. These errors are properties of the components which have been manufactured and placed in the system. Applicant's argument that these errors would not be present during testing of the device at the time manufacture, and only during run-time operation is circular. In order to test the device, the device is placed in a run-time environment (i.e. the laser is operated and aberration is measured) and the variations and errors are measured in order to determine and eliminate the errors which would be present during run-time operation. Secondly, even if applicant's argument that Kimura only corrects for aberration present during run-time operation, and not produced by manufacturing and adjustment errors is presumed to be valid, the fact that Kimura would correct for aberration after the manufacturing and adjustment process would inherently require that Kimura adjusts for aberration which is also a result of manufacturing and adjustment. Put differently, manufacturing and adjustment errors are just one cause of aberration that is present during operation, and Kimura's disclosure of correcting aberration which is measured and present during operation would disclose the correction of all causes of the aberration, including the manufacturing and adjustment errors.

Applicant presents a second argument, pertaining to claims 1 and 12, which contain the limitation directed to the selection from amongst a plurality of different aberration correction optical elements one more of the aberration correction optical components. This argument is also found unpersuasive for the following reasons: Kimura discloses using multiple types of lens systems to correct for the aberration, including a positive and negative lens system correction element (i.e. fig. 33), a two lens "objective lens" system (i.e. figs. 1-21) or an adjustable liquid crystal element (i.e. figs. 67, and 68) among others. The selection of one of these systems for any of the devices is in and of itself a selection of an optical component from a plurality of

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different optical components to correction the aberration. Secondly, each of the systems has at least one fixed optical component which is used to correct for aberration caused by the factors discussed above and each system chooses specific parameters for the lenses to be used for the correction. With respect to the coupling lens system (i.e. fig. 47), Kimura discloses choosing the lenses in order that they satisfy specific values relating to Abbe's number, focal distance, number of diffractive surface rings, material, specific gravity, etc. (see Kimura, pars. 96-105). The setting of these values for the proper lens to be used in the system is the selection from among a plurality of lenses of the component used by Kimura to correct the aberration.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAWFIK GOMA whose telephone number is (571)272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tawfik Goma/  
Examiner, Art Unit 2627